



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

INDUSTRIAL OUTPUT AND SOCIAL EFFICIENCY

BY CHARLES ERVIN REITZEL,

Instructor in Economics, Wharton School of Finance and Commerce,
University of Pennsylvania.

Industrial efficiency has been defined as a maximum of output with a minimum of outlay and effort. To this standard the progressive employer has been so fully converted during the last decade that back-sliding into slipshod methods of production need little be feared. Industry has learned well its scientific lesson on reducing costs. Meanwhile, however, with a zeal almost religious, labor has organized and become united so as to bring into its activities stringent demands for better working conditions and higher wages. Herein, then, we see a basis of conflict. The employer in his efforts to obtain, through so-called efficiency, a lower cost per unit of production, must of necessity condemn, and combat vigorously, programs which make for higher returns to employees. In contrast, labor in order to realize its goal, must push upwards its sources of economic welfare—higher wages and steadier work. This “cutting-down” process on one side opposed to this “pushing-up” process on the other must in the final outcome lead not to efficiency but to inefficiency, not to a maximum of output but to a minimum of output. Conflict results in a curtailing not a creating of product.

But more important! The enlightened laborer is beginning to see, and see clearly, that as a member of an economic class it is to his direct advantage to handicap production. Why should he hurry through a job only to find himself jobless? When a group of workers in California a month ago saw that, with the tin binding straps cut, it required twenty times the amount of work to unload shingles than would otherwise have been necessary, behold, by some unknown mysterious power the binding straps were cut. It meant more work and more work was what they wanted. The bricklayers from their unionist standpoint are justified when they agree to lay eight hundred bricks per day in lieu of a possible two thousand. Such regulations are intended to give steady employment.

There is this conscious aversion on the part of labor to unemployment in all lines of industry. In the 1912 investigation into

the irregularity of employment in the steel industry, the workers objected more strongly to enforced idleness than to any other evil. Quoting from the report:

There was no complaint so frequently made or so strongly expressed as that regarding unemployment. There were many points on which the workmen did not agree; many complained of low wages, others felt they were being paid at a fair rate; but in all parts of the country in all occupations practically all the workmen considered questions affecting hours of labor and rates of wages less important than the constant recurring periods of unemployment, and the uncertainty which attended work at all times.¹

Such views are to be expected. It is most difficult for a workman to associate the idea of increased output with the idea of personal benefit; but the connection is close between retarded work and continuous employment. Let us be honest and admit that the worker from his point of view is right. Work first! The amount of output is of secondary consideration.

Capital likewise is guilty of the same malefficiency. But again we must see justifications. Why grind out product only to find a lowering of prices? After a certain point has been reached, an increase in the volume of output is bound to lessen its unit value. In 1905-6 it will be recalled that the cotton acreage had fallen off 3,900,000 acres as compared with the previous year. This result has been directly attributed to the actions of the Southern Cotton Association and the Farmers Union, who were determined to raise the price to fifteen cents.² Like curtailments of tobacco, lumber, vegetables and fruit, in fact, in all lines of production are matters of common knowledge and experience. With capitalistic concentration comes a corresponding increase of price advantage through the checking of output.

To those interested in social welfare, both this industrial class conflict and this willful limitation of output by both labor and capital, are of vital importance. But of still greater import is the idle capacity becoming more and more tied up on account of such situations. Consider the result. As more and more capital and labor become stagnated the higher must be the costs to the consumer and the worse the spirit of unrest in our social order. Carried to its

¹ United States Report—*Conditions of Employment in the Iron and Steel Industry*, Vol. 111, p. 205.

² *Report of Commissioner of Corporations on Cotton Exchanges*, Part V, p. 342.

natural conclusion we see that it must lead to a complete stagnation in our industrial system. As labor becomes further awakened and establishes a consciousness of its own interests, just so must come defying demands which will hinder and curtail the productive processes. And with the monopolistic growth of capital the more will be its tendency to juggle output so as to enhance prices. Viewing it as the consuming public must, the whole system is becoming cumbersome, chaotic and unworkable. There is no greater condemnation of modern industry than the travesty of an able competent *idle* worker standing beside a huge magnificent *idle* plant. Here is social inefficiency raised to the n^{th} power. We shall have made great strides in social progress when we admit that such an industrial situation is essentially anarchistic.

A complete measurement of this enormous waste due to idle capacity is well nigh impossible. However, sufficient data are available to show in a measure the ratio between the full capacity of industry and its actual operation. If we here can but obtain an intelligent interest in the problem of this wasted capacity, then we have gone far in seeing the importance of obtaining more complete data on the question.

An illuminating New Jersey report³ for 1912 gives us a fact portrayal of at least one state. Here is shown the relation between "full capacity" and "actual operation" not only for all industry but for each specific kind of manufacturing. The exact "purpose of this investigation," to quote from the report, "is to show how nearly the actual operation of industry during the year approached its full productive capacity. The 'proportion of business done,' as reported by the establishments considered, represents their actual output of goods for the year, compared with what it might be if all the existing facilities of the plant had been brought into use." What do the facts show?

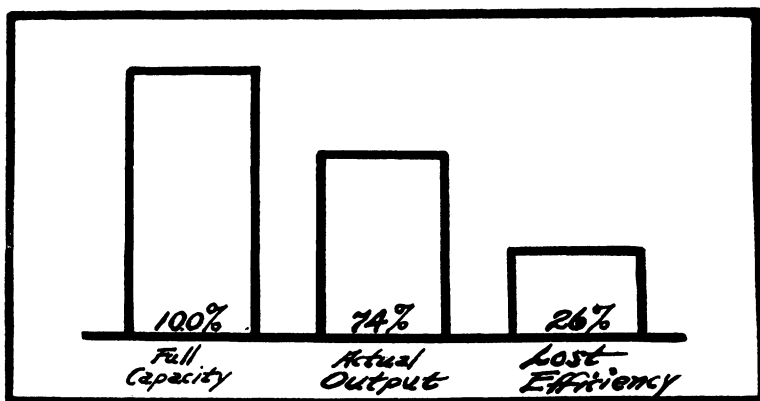
During the year, 2,556 establishments with invested capital amounting to \$849,000,000 and a labor supply of 323,400 employees, created \$1,050,000,000 worth of goods. Deducting Sundays and holidays, the report considered 306 working days as a "full capacity" year. On this basis the aggregate proportion of business done

³ *The thirty-sixth Annual Report of The Bureau of Statistics of Labor and Industry, 1913.*

is shown to be 74 per cent; or 26 per cent below the full productive capacity. In terms of output then, we have:

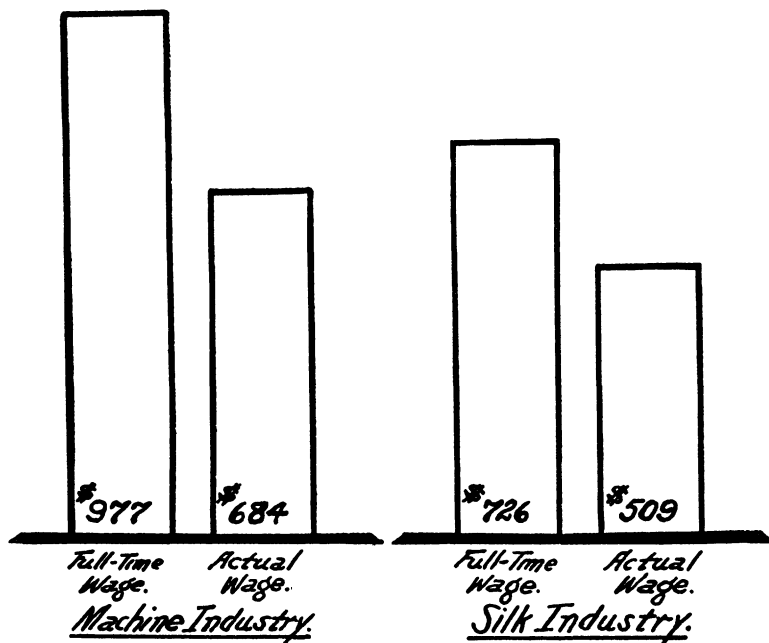
Possible output.....	\$1,413,000,000
Actual output.....	1,050,000,000
Lost output.....	\$ 363,000,000

The same represented by graph would appear as follows:



To the capitalist this 26 per cent "lost efficiency" looms up as a greater possible return on money invested—shall we say, an additional two or three per cent. To the wage-earner it is a life and death proposition. Without any change whatsoever in the ratio of economic distribution, the additional returns that would result to the worker if the industries were running "full capacity" are sufficient to pull the average wage-earner quite a distance away from the pangs of poverty.

Considering the wage-earner in two of the largest industries of the state—the machine industry and the silk industry—which employ 21,194 and 15,775 workers, respectively, we can show clearly his "full time" wage in contrast with his "actual wage." In these industries the operation was in both cases slightly over 70 per cent of their "full capacity." The average wage actually received in the machine industry for the year was \$684; in the silk industry, \$509. The possible "full time" wages were \$977 for the machine worker and \$726 for the silk employee. Charted as follows we have:



Massachusetts also gives us some enlightening material in its twenty-sixth annual report.⁴ But the results are so similar to those of New Jersey that a portrayal would but tend to repetition.

A very thorough investigation which brings out our problem in another light is found in the Iron and Steel Industry Report on Employment.⁵ The investigation took place in 1910, when the production of iron and steel was greater than any preceding year. However, "constant complaints were heard from all classes of employees, skilled and unskilled, native and foreign, about the irregularity and terrible uncertainty that accompanied steel production."⁶ It appears the policy of the steel industry," continues the report, "is to operate to its fullest capacity during active demand, then during a decline in the market, shut down completely and wait an accumulation of orders or the development of better prices"⁷—a vicious policy from the standpoint of the wage-earners. As a

⁴ *Twenty-sixth Annual Report on the Statistics of Manufactures, Massachusetts, 1911.*

⁵ *Report on the Conditions of Employment in the Iron and Steel Industry in the United States*, Vol. III, Ch. VII, 1910.

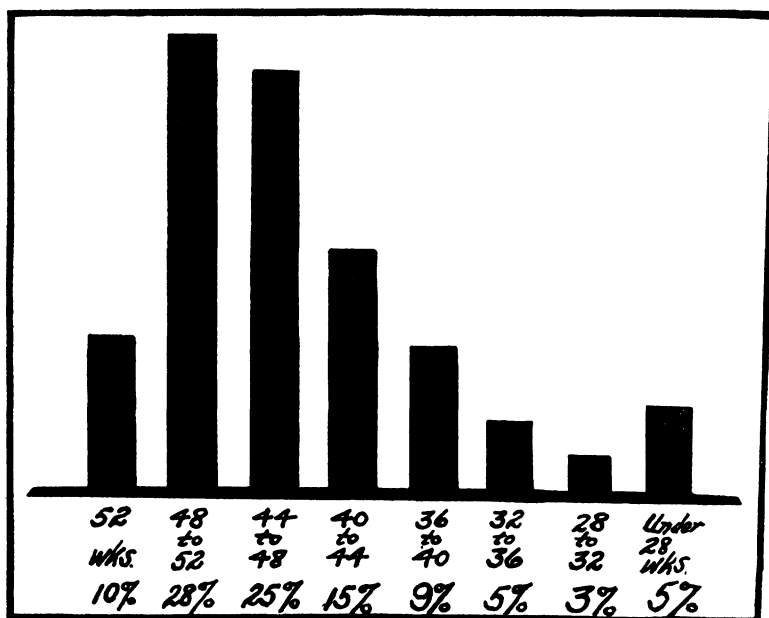
⁶ *Ibid.*, p. 206.

⁷ *Ibid.*, p. 207.

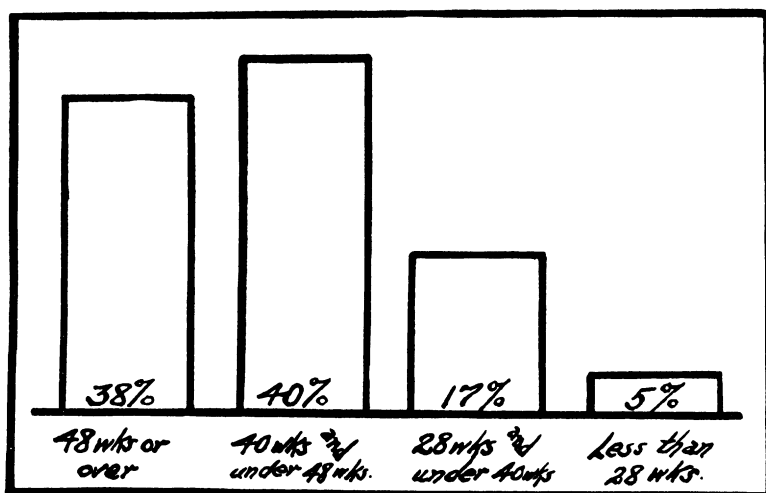
basis of study over one hundred plants with 90,757 employees were covered—the report taking into consideration the five principal departments of steel production,—namely, blastfurnaces, open hearths, bessemer, hand and mechanical rolling mills. A time unit of operation for each department was established. Then the ratio between the number of units of “actual operation” and the number of units of “full capacity” were compiled. Totaling the results of the five departments, we have:

Number of weeks in operation	No. and percentage of employees in each period	
	Number	Per cent
Under 28 weeks.....	4,906	5.4
28 to 32 weeks.....	2,287	2.5
32 to 36 weeks.....	4,168	4.5
36 to 40 weeks.....	8,559	9.4
40 to 44 weeks.....	13,648	15.3
44 to 48 weeks.....	23,015	25.4
48 to 52 weeks.....	25,262	27.7
52 weeks.....	8,912	9.8
Totals.....	90,757	100

Diagrammed according to the percentages of employees working, it appears as follows:



Or, when placed on a basis of plant operation, we have:



Such statistics, however, do not make the appeal that personal experience does. As a boy reared in a steel-town under the black shadows and the dirty smoke of blast furnaces, I remember well the shattered hopes, the fears and the disappointments of the thousands of steel workers caused by irregular employment. What a gloom came over the inhabitants when the report went abroad, "The rail mill is to be shut down," or "The blast furnaces are to be 'out' for a year." This meant less "smoke and dirt," but it also meant less income to the workers who were ever ignorant as to the time such misfortune would fall upon them. Is it any wonder that they are becoming more dissatisfied, restless and disturbing? I should be greatly surprised, taking all things into consideration, if they acted otherwise.

It is natural to expect that blame of some sort will be placed upon capital and labor for this idle capacity and unemployment. But as the situation develops we are placing less blame on either side and are beginning to see that the evil is inherent in a system of industry run primarily for profit. And seeing this, we must look for changes in the system and methods of industry rather than to bitter criticisms of capital and labor, if we wish industrial progress. No! It will not do to attribute the great loss of output to strikes, lockouts

or other troublesome tendencies. These factors focus national attention and often center cruel blame, but the actual loss sustained by strikes, etc., in comparison with the total loss of possible output, is exceedingly small. For instance, in 1912, the New Jersey reports show a loss of less than 1 per cent due to strikes in proportion to the total loss through non-operation.⁸ A system of industry which has the establishment of price as its chief aim is bound to curtail output, far more than the occasional disturbance due to troublesome wage-earners.

What great changes must be made, what constructive policies advanced, in order to secure social efficiency! Two great trends in society today show developments which are bringing about a desire on the part of capital and labor to create a maximum of output. First, the growing tendency that the worker must be more than a wage-earner—that he must become a part sharer in industry. Secondly, the greater government control and government regulation of the means of production which must result in an operation of industry for use rather than for profit. At present, to the workingman the distance is great between increased output and a corresponding increase in wages. He can see no connection between the two—and rightly so, for experience has taught him otherwise. But just so soon as he becomes a direct sharer in the output as a part owner of the business, it changes everything. His interests become coupled with the business, not bulwarked against it. The padlocks of antagonism are broken. So also with capital; the more industry is looked upon as a social institution operated for the needs of the people, the more will intentional checks and limitations be condemned and prohibited. Employers, employees and the public are entering an era of social consciousness—an era characterized by justice for all. Social efficiency demands it!

⁸ *Thirty-sixth Annual Report of Labor and Industries of New Jersey 1913*, p. 310.